Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

   1.1. Name of the Data, data collection Project, or data-producing Program:
   2010 USGS Lidar: Brown County, WI

   1.2. Summary description of the data:
   This dataset includes LiDAR data collected in April 2010 at a nominal pulse spacing of 1. 2 meters for all of Brown County, Wisconsin and a portion of neighboring Oconto County. The dataset includes the raw point clouds, classified point clouds, and bare earth point cloud as well as derivative products including the DTM (Digital Terrain Model), DEM (Digital Elevation Model), Hydro-Flattened DEM, and 2' contours. The specifications of this project are based on the Base LiDAR Specification, Version 12, as set forth by the US Geological Survey: National Geospatial Program. Quality Assurance procedures conducted by the Brown County Surveyor in Fall of 2010 showed that the " bare earth" terrain model had an RMSE Z of 0.207 feet (6.3 cm) and the NSSDA Accuracy (Z) is 0.405(12.3 cm).

   The NOAA Office for Coastal Management (OCM) downloaded the laz files from this USGS site

   ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/Projects/ARRA-WI_BrownCo_2010 and processed the data to the Data Access Viewer (DAV) and to https.

   1.3. Is this a one-time data collection, or an ongoing series of measurements?
   One-time data collection

   1.4. Actual or planned temporal coverage of the data:
   2010

   1.5. Actual or planned geographic coverage of the data:
   W: -88.255939, E: -87.762506, N: 44.681837, S: 44.240384

   1.6. Type(s) of data:
   (e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
   Model (digital)

   1.7. Data collection method(s):

(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:
NOAA Office for Coastal Management (NOAA/OCM)

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:
NOAA Office for Coastal Management (NOAA/OCM)

2.4. E-mail address:
coastal.info@noaa.gov

2.5. Phone number:
(843) 740-1202

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?
Yes

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):
Unknown

5. Data Lineage and Quality
NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality,

objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible
(describe or provide URL of description):

Process Steps:

- 2010-04-17 00:00:00 - The LiDAR data was captured using an Aero Commander 500 Shrike, Piper Navajo 310, and Cessna 320 Skynight (twin-piston), fixed wing aircraft equipped with a LiDAR system. The LiDAR system includes a differential GPS unit and inertial measurement system to provide superior accuracy.   Acquisition parameters: 1. Scanner - ALTM Gemini LiDAR   2. Flight Height - 1700 meters above mean terrain 3. Swath Width - 32 degrees 4. Sidelap - 50% 5. Nominal Post Spacing - 1.2m   GPS and IMU processing parameters: 1. Processing Programs and version - Applanix POSPac, version 4.4   2. Maximum baseline length - Not greater than 40km. 3. Number of base stations during LiDAR collection - A minimum of 3. 4. Max separation between base stations during LiDAR collection - 0.10m   5. IMU processing monitored for consistency and smoothness - Yes.   Point Cloud Processing: 1. Program and version - Optech ASDA Processor   2. Horizontal Datum - NAD83   3. Horizontal Coordinates - WISCRS Brown County, in US Survey Feet. 4. Vertical Datum - NAVD88   5. Geoid Model used to reduce satellite derived elevations to orthometric heights - NGS Geoid09.   LIDAR Processing: 1. Processing Programs and versions - TerraSolid TerraScan (version 010.017), TerraModeler (version 010.005 and TerraMatch (version 010.011) and Intergraph MicroStation (version.08.05.02.55). 2. Point Cloud data is imported to TerraScan in a Microstation V8 (V) CAD environment on a specified 5000 foot by 5000 foot tiling scheme. 3. Analyze the data for overall completeness and consistency. This is to ensure that there are no voids in the data collection.   4. Inspect for calibration errors in the dataset using the TerraMatch software. This is accomplished by sampling the data collected accross all flight lines and classify the idividual lines to ground. The software will use the ground-classified lines to compute corrections (Heading, Pitch, Roll, and Scale).   5. Orientation corrections (i.e. Calibration corrections) are then applied (if needed) to the entire dataset.   6. Automatic and manual ground classification is performed using algorithms with customized parameters to best fit the project area.   7. The Ayres/Aerometric team captured QA/ QC points in 'open terrian' land cover category that were used to test the accuracy of the LiDAR ground surface. TerraScan's Output Control Report (OCR) was used to compare the QAQC data to the LIDAR data. This routine searches the LIDAR dataset by X and Y coordinate, finds the closest LIDAR point and compares the vertical (Z) values to the known data collected in the field. Based on the QAQC data, a bias adjustment was determined, and the results were applied to the LIDAR data. A final OCR was performed with a resulting RMSE of 0.308 ft for the project.   8. Once the automatic processing and testing of LiDAR is complete, the bare-earth surface data was closely inspected to insure that proper classification was achieved as part of a Quality Control process.   9. Final deliverables are generated and output to a client specified PLSS tiling scheme.

- 2020-02-21 00:00:00 - The NOAA Office for Coastal Management (OCM) downloaded 573 laz files from ftp://rockyftp.cr.usgs.gov/vdelivery/Datasets/Staged/Elevation/LPC/ Projects/ARRA-WI_BrownCo_2010   The files contained elevation and intensity measurements for the Brown County, WI project area. The data were in WI County Reference System, Brown County, NAD83 HARN, US survey feet coordinates and NAVD88 (Geoid09) elevations in feet. The data were classified as: 1 - Unclassified, 2 - Ground, 7 - Noise, 8 - Model Key Points, 9 - Water, 10 - Ignored Ground. The NOAA Office for Coastal Management processed all classifications of points to the Digital Coast Data Access Viewer (DAV). Classes available on the DAV are: 1, 2, 7, 8, 9, 10. OCM performed the following processing on the data for Digital Coast storage and provisioning purposes: 1. An internal OCM script was run to check the number of points by classification and by flight ID and the gps and intensity ranges. 2. Internal OCM scripts were run on the laz files to convert from orthometric (NAVD88) elevations to ellipsoid elevations using the Geoid 09 model, to convert from WI County Reference System, Brown County, NAD83 HARN, US survey feet coordinates to geographic coordinates, to convert from elevations in feet to meters, to assign the geokeys, to sort the data by gps time and zip the data to database and to http.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation
The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?
No

6.1.1. If metadata are non-existent or non-compliant, please explain:
Missing/invalid information:
- 1.7. Data collection method(s)
- 3.1. Responsible Party for Data Management
- 5.2. Quality control procedures employed
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.4. Approximate delay between data collection and dissemination
- 8.3. Approximate delay between data collection and submission to an archive facility

6.2. Name of organization or facility providing metadata hosting:
NMFS Office of Science and Technology

      6.2.1. If service is needed for metadata hosting, please indicate:

   6.3. URL of metadata folder or data catalog, if known:
      https://www.fisheries.noaa.gov/inport/item/58889

   6.4. Process for producing and maintaining metadata
(describe or provide URL of description):
      Metadata produced and maintained in accordance with the NOAA Data Documentation
      Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-
      Data_Documentation_v1.pdf

7. Data Access
NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

   7.1. Do these data comply with the Data Access directive?
      Yes

      7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

      7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

   7.2. Name of organization of facility providing data access:
      NOAA Office for Coastal Management (NOAA/OCM)

      7.2.1. If data hosting service is needed, please indicate:

      7.2.2. URL of data access service, if known:
         https://coast.noaa.gov/dataviewer/#/lidar/search/where:ID=9028
         https://coast.noaa.gov/htdata/lidar3_z/geoid18/data/9028

   7.3. Data access methods or services offered:
      Data is available online for bulk and custom downloads.

   7.4. Approximate delay between data collection and dissemination:

      7.4.1. If delay is longer than latency of automated processing, indicate under what

authority data access is delayed:

8. Data Preservation and Protection
The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)
    NCEI_CO

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
    Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection
    Data is backed up to tape and to cloud storage.

9. Additional Line Office or Staff Office Questions
Line and Staff Offices may extend this template by inserting additional questions in this section.